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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,362	05/08/2001	David S. Breed	ATI-244	2373

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EXAMINER

NGUYEN, TAI T

ART UNIT PAPER NUMBER

2632

DATE MAILED: 12/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/851,362

Applicant(s)

BREED ET AL.

Examiner

Tai T. Nguyen

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 May 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 and 5. 6) ☐ Other: .

## **DETAILED ACTION**

### ***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claim 16, line 23 claimed for "said receiver means comprises a notch filter" that could not be found in the specification.

2. Claim 16 is objected to because of the following informalities: there is no description for the Notch filter in the specification. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 15 recites the limitation "said associated light emitting elements" in line 20. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-4, 13-15 and 18-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Scully (US 6,363,326).

**Regarding claim 1**, Scully discloses a method and apparatus for detecting an object on a side of a vehicle including all subject matters as follows:

light emitting means (10, as shown in Figure 1; col. 2, lines 23-44);  
receiver means (20; as shown in Figure 1; col. 2, lines 23-44); and  
measurement means (40, 50) coupled to the light emitting means and the receiver means for measuring time between emission of the infrared and reception of the infrared whereby the measured time correlates to distance between the vehicle and an object from which the infrared light is reflected (as shown in Figure 1; col. 2, lines 44-62).

**Regarding claim 2**, Scully disclose the light emitting means is an infrared laser diode (col. 2, lines 63-64).

Art Unit: 2632

**Regarding claim 3**, Scully discloses the light emitting means (10) is a pulse laser/transmitter (col. 2, lines 22-25).

**Regarding claim 4**, Scully discloses the light emitting means is a continuous laser beam directing infrared light to scan in a line and control unit (100) for controlling the scanning laser beam of infrared light such that the infrared light transverses a volume of space near the vehicle (col. 2, lines 28-33 and col. 3, lines 29-49 and col. 4, lines 63-65).

**Regarding claim 13**, Scully discloses the light emitting means (10) and the receiver means (20) are collocated in the same rangefinder (200, as shown in Figure 1).

**Regarding claim 14**, Scully discloses the operation of the system can be used of a single receiver means with a multiple light emitting units (col. 5, lines 4-6).

**Regarding claim 15**, as shown in Figure 1, wherein the light emitting unit and the receiver means are spaced apart from one other.

**Regarding claim 18**, as mentioned in claim 4 above, Scully discloses the control unit (100) comprising a processor coupled to the measurement means for determining distance between the vehicle and the object (80) from which infrared light is reflected and velocity of the object based on a plurality of position measurement (col. 3, line 62 through col. 4, line 59).

**Regarding claim 19**, Scully discloses a system for detecting an object on a side of a vehicle including all subject matters as follows:

Art Unit: 2632

an arrangement (200) for obtaining information about the object (80), the arrangement comprising:

light emitting means (10, as shown in Figure 1; col. 2, lines 23-44);

receiver means (20; as shown in Figure 1; col. 2, lines 23-44);

a vehicular system adapted to be controlled the determination of the presence of the object in an environment of the vehicle (as shown in Figures 1 and 3); and

processor (100) coupled to the arrangement and the vehicular system for obtaining information about the object (as shown in Figure 1; col. 3, lines 28-33).

**Regarding claim 20**, Scully disclose the processor is arranged for measuring time between emission of the infrared and reception of the infrared whereby the measured time correlates to distance between the vehicle and an object from which the infrared light is reflected (as shown in Figure 1; col. 2, lines 44-62).

**Regarding claim 21**, Scully discloses the receiver means is arranged to obtain at least one image of the environment around the vehicle and the processor being arranged to process the at least one image and identify any objects (80) in the at least one image (col. 2, line 28 through col. 3, line 23).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2632

8. Claims 5-6 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scully (US 6,363,326) in view of Smith et al. (US 6,281,806).

**Regarding claims 5-6,** Scully disclose the instant claimed invention except for: the receiver means comprises a single pixel camera, CCD array, a CMOS array. Since Scully disclose receiver means (10) is a photodiode or avalanche photodiode (col. 3, lines 13-16). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize a single pixel camera, CCD array, a CMOS array to receive a reflected signal from the object to determine the distance and location of that object. Smith et al. teaches a sensor system (18) for outputting a plurality signals (22) including pixel data and obtaining reflected signals back by a CMOS or CCD camera as shown in Figure 1; col. 3, lines 14-46). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the CMOS or CCD cameras as taught by Smith et al. into the system as disclose by Scully for receiving the infrared light reflecting back from the environment around the vehicle in order to detect the distance between the object and the vehicle.

**Regarding claim 24,** refer to claims 5-6 above.

9. Claims 7-12, 16-17, 22-13 and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scully (US 6,363,326).

**Regarding claims 7-12,** Since Scully discloses the control unit (100) is a conventional microprocessor, microcontroller, or a digital signal processor for

Art Unit: 2632

setting the firing sequence of the individual units, storing data from the rangefinder units, providing system analysis and providing output for display of status in a display unit (300, col. 2, lines 28-33). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to know that the control unit can be used to utilizes pattern recognition techniques, modular neural network to identify the object from reflected signal to determine the distance between object and vehicle.

**Regarding claim 16**, since Scully discloses the receiver unit detects reflected return pulse from an obstacle (80) and provides initial amplified and gain adjusted in signal conditional (30, as shown in Figure 1; col. 2, lines 34-44). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a notch filter for filtering noise in order to avoid the false alarm situation when there is no object is detected.

**Regarding claim 17**, Scully fails to disclose the receiver means comprises a light valve but it would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize a receiver light valve in order to limit a light intensity that may overwhelming the receiver.

**Regarding claims 22-23, 25-27 and 29**, refer to claims 7-12 above.

**Regarding claim 28**, since Scully discloses the vehicular system (as shown in Figure 3), it would have been obvious to a person having ordinary skill in the art at the time the invention was made to



Art Unit: 2632

**Conclusion**

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Juds et al. (US 5,377,167) ; Betzitza et al. (US 6,265,968); and Nishino (US 5,724,141).

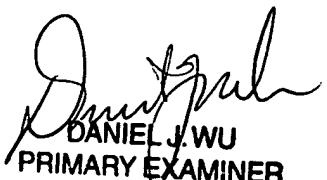
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai T. Nguyen whose telephone number is (703) 308-0160. The examiner can normally be reached on Monday-Friday from 7:30am-5:00pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Daniel J. Wu can be reached on (703) 308-6730. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3988 for regular communications and (703) 305-3988 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

November 22, 2002

Tai T. Nguyen  
Examiner  
Art Unit 2632

  
DANIEL J. WU  
PRIMARY EXAMINER  
12/07/02

  
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